

# List of All Chemicals

## P Pterocarpus marsupium (Fabaceae)

### Common name(s)

bijasal; Malabar Kino; Indian Kino

### How used

Medicinal

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Part	Low PPM	High PPM	StdDev	*Reference
KINOTANNIC-ACID	Resin, Exudate, Sap	250000.0	800000.0	*	
CATECHOL	Wood	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<b>Activities (22)</b>					
Allelochemical IC50=0.65 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.				
Allergenic	Mitchell, J. and Rook, A.J. 1923. Botanical Dermatology: plants and plant products injurious to the skin. Vancouver: Greengrass, 1979. xiii, 787 p.: ill.				
Anticancer (Breast)	Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.				
Antigonadotropic					
Antioxidant	Jim Duke's personal files.				
Antiseptic					
Antistomatinic	Economic & Medicinal Plant Research, 5: 197.				
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.				
Antithyreotropic					
Antitumor					
Antitumor (Breast)	Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.				
Antiviral	Economic & Medicinal Plant Research, 5: 197.				
Cancer- Preventive					
Carcinogenic 0.8% diet	Jim Duke's personal files.				
Carcinogenic 2% diet					
Co-carcinogenic					
Convulsant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Dermatitigenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Herbicide					
Pesticide					
Quinone- Reductase- Inducer	Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.				
Tumor-Promoter <0.2% diet	Jim Duke's personal files.				
PROPTEROL	Heart Wood	--	--	*	
4,6,4"-TRIHYDROXYAURONE-6-O- RHAMNOPYRANOSIDE	Root	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
PROPTEROL	Wood Essent. Oil	--	--	*	
(2S)-7-HYDROXYFLAVANONE	Wood	--	--		=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

2-HYDROXY-2-P-HYDROXYBENZYL-  
3(2H)-6-HYDROXYBENZOFURANONE-  
7-C-BETA-D-GLUCOPYRANOSIDE

Heart  
Wood -- -- \*

LIQUIRITIGENIN

Wood -- -- \*

#### Activities (12)

Antidepressant	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988; reprint 1989.
Antiinflammatory	
Antileukemic IC50=0.29 ug/ml	Life Sciences 55: 1061.
Antispasmodic	
Antiulcer	
CNS-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Fungicide ED50=>100	
Hemoglobin-Inducer	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
MAO-Inhibitor EC50=17uM	
Pesticide	
Phytoalexin	

CARPUSIN

Wood -- -- =ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

L-EPICATECHIN

Stem  
Bark -- -- \*

3-(ALPHA-METHOXY-4-HYDROXYBENZYLIDENE)-6-HYDROXYBENZO-2(3H)-FURANONE-7-C-BETA-D-GLUCOPYRANOSIDE

Heart  
Wood -- -- \*

POTASH

Leaf -- 25000.0 ANON. 1948-1976. *The Wealth of India raw materials*. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

C-BETA-D-GLUCOPYRANOSYL-2,6-DIHYDROXYLBENZENE

Heart  
Wood -- -- \*

L-EPICATECHIN

Bark -- -- \*

C-GLYCOSYL-BETA-HYDROXY-DIHYDROCHALKONE

Root -- -- =ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

1,2-BIS(2,4-DIHYDROXY-3-C-GLUCOPYRANOSYL)-ETHANEDIONE

Heart  
Wood -- -- \*

LUP-20(29)-EN-3-BETA-OL

Plant -- -- Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

PHOSPHORIC-ACID

Leaf -- 4000.0 ANON. 1948-1976. *The Wealth of India raw materials*. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

#### Activities (4)

Acidulant	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Additive	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
FLavor FEMA 500-5,000	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Sequestrant	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

8-(C-BETA-D-GLUCOPYRANOSYL)-7,3',4'-TRIHYDROXYFLAVONE

Heart  
Wood -- -- \*

BETA-EUDESMOL

Root -- -- \*

**Activities (13)**

AntiEBV

Antianoxic ED60=300  
IC<sub>50</sub> mus Yamahara, J., Matsuda, H., Naitoh, Y., Fujimura, H., and Tamai, Y. 1990. Antianoxic Action and Active Constituents of *Atractylodis Lanceae* Rhizoma. *Chem. Pharm. Bull.* 38(7): 2033-2034, 1990.

Antimutagenic  
ID<sub>50</sub>=0.09 uM/ml

Antipeptic Chem & Pharm. Bull., 34: 3854, 1986.

Antisalmonella >0.18  
uM/ml

Antitumor-Promoter?

Antiulcer

CNS-Inhibitor

Calcium-Antagonist 40  
uM mus

Hepatoprotective

Neurogenic

Pesticide

Sedative

WATER	Leaf	--	788000.0	-0.1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
PTEROCARPOL-A	Stem Bark	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
PHLOBAPHENE	Wood	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7-HYDROXY-6,8-DIMETHYL-FLAVANONE-7-O-ALPHA-L-ARABINOPYRANOSIDE	Root	--	--	*	
KINORED	Wood	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
ASH	Leaf	--	75000.0	-0.77	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4,6,4"-TRIHYDROXY-7-METHOXYAURONE-4'-O-RHAMNO PYRANOSIDE	Root	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
SELIN-4(15)-EN-1-BETA,11-DIOL	Root	--	--		=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
PROPTEROL-H	Heart Wood	--	--	*	
PENTOSAN	Plant	--	--		=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
(-)EPICATECHIN	Stem Bark	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

## Activities (38)

5-Lipoxygenase-Inhibitor IC50=22-50 uM/l				
ACE-Inhibitor IC50=0.216 mM/l				
ACE-Inhibitor 0.5 mg/ml rbt (weak activity)				
Allelochemical	Hanke, F. J., Natural Products as a Resource for Biologically Active Compounds, Thesis, U. Cal (Santa Cruz), 1986, 252 pp			
AntiEBV	Economic & Medicinal Plant Research, 6: 189.			
AntiHIV EC50=2 ug/ml				
Antiaggregant				
Antianaphylactic				
Antibacterial				
Antidiabetic 30 mg/kg rat				
Antihepatitic	Vlietinck, A.J. and Dommisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.			
Antihyperglycemic				
Antiinflammatory				
Antileukemic	Economic & Medicinal Plant Research, 6: 189.			
Antileukotriene				
Antilipoperoxidant				
Antimutagenic				
Antioxidant IC50=6.3 ug/ml				
Antiperoxidant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antiviral EC50=2 ug/ml				
Beta-Adrenergic Receptor Blocker 10 uM	Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? <i>Phytochemistry</i> , 44(3): 441-447.			
COMP-Inhibitor	Dullo, A. G., et al. 1999. Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-h energy expenditure and fat oxidation in humans. <i>Am. J. Clinical Nutrition</i> , 70: 1040-1045.			
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Cardiotonic				
Choline-Sparing				
Cytotoxic TC50=>100 ug/ml				
Hypocholesterolemic				
Hypoglycemic				
Immunostimulant				
Insulinogenic	Economic & Medicinal Plant Research, 6: 170.			
Lipoxygenase-1-Inhibitor IC50=60 mM				
Lipoxygenase-Inhibitor IC50=140 uM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.			
Lipoxygenase-Inhibitor IC97=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.			
Pancreatogenic				
Pesticide				
Reverse-Transcriptase-Inhibitor 10 ng/ml	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.			
Vasodilator uM	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.			
Xanthine-Oxidase-Inhibitor IC50=>40	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. <i>Chem. Pharm. Bull.</i> 38(5): 1224-1229			

KINOIN	Resin, Exudate, Sap	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
SESQUITERPENE	Heart Wood	--	--	*
RETUSIN-7-O-BETA-GLUCOPYRANOSIDE	Wood	--	--	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
ALKALOIDS	Wood	--	170.0	-1.02
PHYTOSTEROLS	Stem Bark	--	--	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

**Activities (2)**

Antiprostatic

Hypocholesterolemic

PECTIN

Wood

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ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

**Activities (24)**

Antiatheromic 15 g/man/day

Cerda, J.J. Pectin in Health and Disease. HortScience, 25(12): 1485, 1990.

Antibacterial

Antidiabetic 10 g/man/day/orl

Merck 11th Edition

Antidiarrheic

Antienteric

Antigallstone

Antigastritic

Antilithic

Antimetastatic

Antimutagenic

Antiobesity

Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.

Antitumor (Colon)

Antitumor (Prostate)

Antitussive

Antiulcer

Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Chemopreventive

Demulcent

Fungicide

Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley &amp; Sons, New York. 649 pp.

Hemostat

Hypocholesterolemic

Hypoglycemic

Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.

Peristaltic

Pesticide

GIBBERELLIC-ACID

Root

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Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

ISOLIQUIRITIGENIN

Wood

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#### Activities (28)

Aldose-Reductase-Inhibitor  
IC<sub>50</sub>=0.32 uM

Aldose-Reductase-Inhibitor 0.1  
ug/ml

AntiPAF

AntiPAF

Antiaggregant

Antiallergic

Antidepressant

Williamson, E. M. and Evans, F. J., *Potter's New Cyclopaedia of Botanical Drugs and Preparations*, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.

Antidiabetic

Antiischemic

Antioxidant

Antispasmodic

Antitumor

Antiulcer

Antiviral

Apoptotic

Cancer-Preventive

Cyclooxygenase-Inhibitor

Estrogenic

Lipoxygenase-Inhibitor

MAO-Inhibitor EC<sub>50</sub>=17 uM

Wichtl, M. 1984. *Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart.* 393 pp.

MAO-Inhibitor IC<sub>50</sub>=>200

Myorelaxant

Peroxidase-Inhibitor

Pigment

Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.

Quinone-Reductase-Inhibitor  
IC<sub>50</sub>=27.3 uM

Quinone-Reductase-Inhibitor  
IC<sub>76</sub>=10 ug/ml

Tyrosine-Kinase-Inhibitor  
IC<sub>50</sub>=8.1 uM

Vasorelaxant

#### RICINOLEIC-ACID

Seed

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Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

#### Activities (7)

Antiinflammatory IC<sub>50</sub>=41  
uM

Antileukotriene-D4 IC<sub>50</sub>=41  
uM

Carcinogenic

Prostaglandigenic

Secretagogue

Soap

Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.

Spermicide

Martindale's 28th

#### RESIN

Wood

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9000.0

-1.11

ANON. 1948-1976. *The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.* 11 volumes.

#### 7-HYDROXY-5,4'-DIMETHOXY-8-METHYLISOFLAVONE-7-RHAMNOside

Plant

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J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

#### PHLOROGLUCIN

Resin,  
Exudate,  
Sap

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Dictionary of the Economic Products of India. 6 vols. by George Watt. 1889-1892. Reprint 1972. Nav Bharat Offset Process, Delhi.

#### P-HYDROXYBENZALDEHYDE

Root

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#### Activities (4)

Antifeedant

Jacobson, M., *Glossary of Plant-Derived Insect Deterrents*, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Pesticide

Tyrosinase-Inhibitor ID<sub>50</sub>=1.2 mM

Tyrosinase-Inhibitor ID<sub>50</sub>=1,200 uM

#### CYTOKININS

Root

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Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

IRISOLIDOL-7-O-BETA-D-GLUCOPYRANOSIDE	Plant	--	--	J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
RETUSIN-8-O-ALPHA-L-ARABINOPYRANOSIDE	Plant	--	--	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
PTEROSUPIN	Root	--	--	*
7,4'-DIHYDROXYFLAVONE	Wood	--	--	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
NARINGENIN	Plant	--	--	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

### Activities (56)

11B-HSD-Inhibitor

Aldose-Reductase-Inhibitor IC25=1 uM Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. *Phytochemistry*, 23: 1885-1888.

Aldose-Reductase-Inhibitor IC78=10 uM Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. *Phytochemistry*, 23: 1885-1888.

Aldose-Reductase-Inhibitor 100 uM Oliveira, T. T., Nagem, T. J., Miranda, L. C. G., Paula, V. F., Teixeira, M. A. 1997. Inhibitory Action on Aldose Reductase by Soybean Flavonoids. *J Braz Chem Soc*, 8(3): 211-213.

Aldose-Reductase-Inhibitor 1 ug/mL Aida, K., Tawata, M., Shindo, H., Onaya, T., Sasaki, H., Yamaguchi, T., Chin, M.(Chen, Z.), and Mitsuhashi, H. 1989. Isoliquiritigenin: A New Aldose Reductase Inhibitor from Glycyrrhizae Radix. *Planta Medica* 56(3): 254-258.

AntiHIV IC35=200 ug/ml

Antiacetylcholinesterase

Antiaflatoxin IC50=12 uM

Antiaflatoxin IC50=3.37 ppm

Antiaggregant Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants*. Taylor & Frost, London. 791 pp.

Antialzheimeran

Antiamnesic

Antiamyloid-Beta

Antibacterial MIC=250-500 ug/ml Planta Medica, 57: A43, 1991.

Anticancer

Antiescherichic

Antiestrogenic

Antifibrotic

Antihepatotoxic Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants*. Taylor & Frost, London. 791 pp.

Antiherpetic Economic & Medicinal Plant Research, 5: 197.

Antiinflammatory 20 ppm

Antileukemic IC50=>10 ug/ml Life Sciences 55: 1061.

Antimutagenic ID50=50-100 nM Maga, J.A. Contribution of Phenolic Compounds to Smoke Flavor. *Phenolic Compounds in Food and Their Effects on Health*, Ch.13.

Antioxidant 7 x quercetin

Antiperistaltic

Antiperoxidative Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants*. Taylor & Frost, London. 791 pp.

Antiradicular 7 x quercetin

Antisindhis IC50=15 ug/ml

Antispasmodic Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants*. Taylor & Frost, London. 791 pp.

Antistaphylococcic

Antitumor

Antitumor-Promoter

Antiulcer Fitoterapia No.5-1990.

Antiviral IC50=15 ug/ml

Aphidifuge

Aromatase-Inhibitor IC45=1 uM/l Journal of Medicinal Food 2: 235.1999.

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Candidicide

Choleretic

Cytochrome-P450-Inhibitor Pizzorno, J. 1998. Total Wellness. Prima Health, a division of Prima.

Decarboxylase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Embryotoxic	
Estrogenic EC50=0.1-25 uM/l	
Fungicide 2.5 mM	
Fungistat	Weidenborner, M., Hindorf, H., Jha, H.C., and Tsotsonos, P. 1989. Antifungal Activity of Flavonoids Against Storage Fungi of the Genus <i>Aspergillus</i> . <i>Phytochemistry.</i> 29(4): 1103-1105.
Hepatoprotective IC50=12 uM	
Hepatoprotective IC50=3.37 ppm	
Neuroprotective	
P450-Inhibitor	
Pesticide	
Serotonin-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
TNF-alpha-Inhibitor IC50=14.41 uM	
Teratogenic	
Topoisomerase-I-Inhibitor	Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. <i>Toxicol Ind Health,</i> 14: 223-237.
Uterotrophic EC50=0.1-25 uM/l	Journal of Medicinal Food 2: 227.1999.
CAMP-Phosphodiesterase-Inhibitor	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).

NITROGEN	Leaf	--	25000.0	-0.94	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
ABSCISSIC-ACID	Root	--	--	--	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K),</i> 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

#### Activities (3)

Juvabional  
Pesticide  
Phytohormonal

GARBANZOL	Root	--	--	*	
PTEROCARPOL-B	Stem Bark	--	--	--	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K),</i> 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
PTEROSTILBENE	Root	--	--	--	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

#### Activities (19)

Antibacterial  
Antidiabetic  
Antimelanomic 40 uM  
Antioxidant  
Antiradicular  
COX-1-Inhibitor IC50=20 uM  
COX-2-Inhibitor IC50=84 uM  
Chemopreventive ED50=5 uM  
Cyclooxygenase-Inhibitor IC50=20-84 uM  
Cytotoxic  
Fungicide Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.  
Hyperglycemic  
Hypocholesterolemic 25 ppm diet hamster  
Hypoglycemic 10-50 mg/kg  
Hypolipidemic  
Hypotensive  
Insecticide Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.  
Pesticide  
Phytoalexin Nigg, H.N. and Seigler, D.S., eds. 1992. *Phytochemical Resources for Medicine and Agriculture.* Plenum Press, New York. 445 pp.

5-DEOXYKAEMPFEROL	Root	--	--	*	
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**Activities (21)**

AntiEBV

Antiangiogenic 30-50 ug/ml

Antiedemic

Antiflu

Antihyperglycemic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Antiinflammatory 1/3 indomethacin

Antilithic 25 mg/kg/day

Antimalarial IC50=46.8 ug/ml Khalid, S.A., Farouk, A., Geary\*\*, T.G., and Jensen, J.B. 1985. Potential Antimalarial Candidates From African Plants: An In Vitro Approach Using *Plasmodium falciparum*\*. Journal of Ethnopharmacology, 15: 201-209, 1986.

Antioxalate 25 mg/kg/day

Antioxidant 25 mg/kg/day

Antiperoxidant 25 mg/kg/day

Antiprostaglandin

Antirheumatic

Antitumor Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Antiurethrotic

Antiviral

Cytotoxic 50-500 ppm

FPTase-Inhibitor IC50=65 ug/ml

Hypotensive Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Pesticide

TOPO-2-Inhibitor IC50=10.4 uM

**MUCILAGE****Activities (3)**

Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Demulcent

Hypocholesterolemic

**FISETIN-8-C-GLUCOSIDE****GALLIC-ACID****Activities (62)**

ACE-Inhibitor IC50=7.7 mM/l

Analgesic

AntiHIV

AntiMRSA

Antiadenovirus Economic &amp; Medicinal Plant Research, 5: 194.

Antiallergenic Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.

Antianaphylactic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Antiangiogenic

Antiasthmatic Watt, J.M., and Breyer-Brandwijk, M.G. The Medicinal and Poisonous Plants of Southern and Eastern Africa. 1962.

Antibacterial MIC=1,000 ug/ml

Antibronchitic Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.

Anticancer

Anticarcinomic ED50=3

Antiescherichic

Antifibrinolytic Economic &amp; Medicinal Plant Research, 1: 53.

Antiflu	Economic & Medicinal Plant Research, 5: 194.
Antihepatotoxic	Okuda, T., Yoshida, T., and Hatano, T. Antioxidant Effects of Tannins and Related Polyphenols. Phenolic Compounds in Food and Their Effects on Health, Ch.7 p.93.
Antihperitic EC50=>10 ug/ml	
Antiinflammatory	Kroes, B.H., et al. 1991. Anti-Inflammatory Activity of Gallic Acid. <i>Planta Medica</i> , 58(6): 499.
Antileishmanic EC50=4.4 ug/ml	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antinitrosaminic	
Antioxidant IC44=33 ppm	
Antioxidant 7 x quercetin	
Antioxidant 2/3 BHA	
Antiperiodontitic 10 ug/ml	
Antiperoxidant IC50=69 uM	
Antipolio	Economic & Medicinal Plant Research, 5: 194.
Antiproteolytic 10 ug/ml	
Antiradicular 7 x quercetin	
Antiradicular IC50=4.9 uM	
Antiseptic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antistaphylococcic MIC=1,000 ug/ml	
Antitumor	
Antitumor-Promoter	
Antiviral	
Apoptotic	
Astringent	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Bacteristat	Lamikanra, A., Ogundaini, A.O., and Ogungbamila*, F.O. Antibacterial Constituents of Alchornea cordifolia Leaves. <i>Phytotherapy Research</i> 4(5): 198.
Bronchodilator	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Carcinogenic	
Choleretic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cyclooxygenase-Inhibitor	
Cytotoxic 500 uM	
Floral-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Gram(+)-icide MIC=1,000 ug/ml	
Gram(-)-icide MIC=1,000 ug/ml	
Hemostat	
Hepatoprotective	Neuwinger, H. D. 1996. <i>African Ethnobotany - Poisons and Drugs</i> . Chapman & Hall, New York. 941 pp.
Immunomodulator	
Immunostimulant	McKenna, D. J., Hughes, K., and Jones, K. 2000. <i>Green Tea Monograph. Alternative Therapies</i> , 6(3): 61-82.
Immunosuppressant	
Insulin-Sparing	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Myorelaxant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
NO-Inhibitor IC-26=250 uM	
Nephrotoxic	Martindale's 29th
Pesticide	
Styptic	
Topoisomerase-I-Inhibitor	Hamada, S. I., Kataoka, T., Woo, J. T., Yamada, A., Yoshida, T., Nishimura, T., Otake, N., Nagai, K. 1997. Immunosuppressive Effects by Gallic Acid and Chebulagic Acid on CTL-Mediated Cytotoxicity. <i>Biol Pharm Bull</i> , 20: 1017-1019.
Xanthine-Oxidase-Inhibitor IC50=24 uM	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. <i>Chem. Pharm. Bull.</i> 38(5): 1224-1229

7-O-ALPHA-L-RHAMNOPYRANOSYL-OXY-4'-METHOXY-5'-HYDROXYISOFLAVONE

Plant -- -- \*

PSEUDOBAPTIGENIN

Root -- -- \*

**Activities (3)**

Antiarthritic  
 Herbistat Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.  
 Pesticide

5,7-DIHYDROXY-6-METHOXY-7-O-ALPHA-RHAMNOPYRANOSIDE	Wood	--	--	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
INDOLE-ACETIC-ACID	Root	--	--	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

**Activities (1)**

Hormone Merck 11th Edition

MARSUPOL	Wood	--	--	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
ERYTHRODIOL-3-MONOACETATE	Root	--	--	*
5-DEOXYKAEMPFEROL-8-C-GLUCOSIDE	Wood	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
7,8,4'-TRIHYDROXY-3',5'-DIMETHOXYFLAVANONE-4'-O-BETA-D-GLUCOPYRANOSIDE	Root	--	--	*
PROTOCATECHUIC-ACID	Wood	--	--	*

## Activities (43)

Allergenic				
Alpha-Glucosidase-Inhibitor				
AntiLegionella				
Antiarrhythmic	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 407.			
Antiasthmatic				
Antibacterial	Lamikanra, A., Ogundaini, A.O., and Ogungbamil*, F.O. Antibacterial Constituents of Alchornea cordifolia Leaves. Phytotherapy Research 4(5): 198.			
Anticlastogen				
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antiherpetic				
Antiinflammatory	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antiischemic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antileukemic				
Antimelanogenic				
ID60=0.5 uM/ml				
Antimutagenic				
Antiophidic	Economic & Medicinal Plant Research, 5: 363.			
Antioxidant 2/3 quercetin				
Antioxidant 10 x alpha-tocopherol				
Antioxidant 1/2 BHT				
Antiperoxidant IC50=>100 uM	Planta Medica, 57: A54, 1991.			
Antiperoxidant IC75=200 ug/ml				
Antiradicular				
Antiseptic				
Antispasmodic EC50=4.6-17 uM	Ortiz de Urbina, J.J., Martin, M.L., Sevilla, M.A., Montero, M.J., Carron, R., and San Roman, L. Antispasmodic Activity on Rat Smooth Muscle of Polyphenol Compounds Caffeic and Protocatechic Acids. Phytotherapy Research 4(2): 73, 1990.			
Antitumor (Colon)				
Antitumor (Mouth)				
Antitumor (Skin)				
Antitussive	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 200.			
Antiviral				
Apoptotic				
Carcinogenic				
Cardioprotective				
Chemopreventive 100 ppm orl rat				
Fungicide 500 ug/ml	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.			
Glutathione-Depleting				
Hepatotoxic				
Immunostimulant	Economic & Medicinal Plant Research, 1: 124.			
Nephrotoxic				
Pesticide				
Phagocytotic	Economic & Medicinal Plant Research, 1: 124.			
Prostaglandigenic				
Secretagogue	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.			
Tyrosinase-Inhibitor ID60=0.5 uM/ml				
Ubiquiot	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			

3,7,4'-TRIHYDROXYFLAVONE Wood -- -- =ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

6-HYDROXY-2-(4-HYDROXYBENZYL)-BENZOFURAN-7-C-BETA-D-GLUCOPYRANOSIDE Heart Wood -- -- \*

MARSUPINOL Wood -- -- =ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

## Activities (1)

Cardiocontractant